REMARKS/ARGUMENTS

Favorable reconsideration of this Application, as presently amended and in light of the following discussion, is respectfully requested.

This Amendment is in response to the Office Action mailed on July 14, 2004. Claims 3, 5, 10, 11, 13-17 are pending in this Application and Claims 3, 5, and 10-15 stand rejected. Claims 3, 10, 11, and 13 are amended, Claims 9 and 12 are cancelled without prejudice or disclaimer, and new Claims 16 and 17 are added by the present Amendment. Support for the subject matter amended to Claim 3 is found, for example, on page 6, lines 16-21 and on page 9, lines 5-10 of Applicants' specification.

Claims 3, 5, 9, and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Holst et al. (U.S. Patent No. 5,955,037, hereinafter "Holst") in view of Malcolm (U.S. Patent No. 4,541,844, hereinafter "Malcolm"). Claim 9 has been canceled by the present Amendment; therefore, its rejection is now moot.

Applicants respectfully submit that Holst and Malcolm, individually or in any combination thereof, do not support a *prima facie* case of obviousness of the invention recited in Claim 3. This is so for at least two reasons. First, even when combined, these prior art references do not teach or suggest all the claim limitations recited therein. Secondly, there is no motivation to combine the cited references.

According to a feature of the invention as set forth in Claim 3, a cleaning apparatus is recited for cleaning an exhaust gas coming from an apparatus for the production of a gallium nitride film semiconductor, wherein a pipe made of an electroconductive corrosion-resistant material is electrically grounded in order to prevent an electrostatic charging generated by friction between ammonium chloride powders and inside walls of an exhaust gas passageway.

As disclosed in the Specification, this novel and nonobvious cleaning apparatus provides a safer environment by preventing the ignition of combustible hydrogen and oxygen mixtures by the electrostatic charges buildup in the pipes created by the friction between ammonium chloride powders and inside walls of exhaust passageways in the cleaning apparatus (Specification, page 5, lines 8-25). Claim 3 has been amended to more clearly recite such a cleaning apparatus.

The outstanding Office Action asserts that FIG. 12 of Holst discloses a cleaning apparatus as recited in Claim 3 and acknowledges that Holst does not disclose an electrically grounded introduction piping made of stainless steel. Malcolm is cited for disclosing an electrostatic precipitator grounded scrubber as shown in FIG. 3 of that reference.

Holst relate to an effluent gas stream treatment system for treatment of gaseous effluents comprising a pre-oxidation treatment unit, an oxidation unit such an electrothermal oxidizer, and a post-oxidation treatment unit. FIG. 12 of Holst is a schematic representation of a process system for treatment of effluent gas from an upstream process 901, which enters a cabinet 903 via line 907 and is processed in treatment unit 905 for removal of acidic components and removal of particulate solids. Besides the deficiencies of Holst already acknowledged in the outstanding Office Action, Holst is silent with regard to the use of charging in any of the disclosed components in its effluent gas stream treatment system or any buildup of electrostatic charges generated by friction between ammonium chloride powders and inside walls of an exhaust gas passageway.

Malcolm relates to a method and apparatus for the removal of particulate matter, fumes, mists and noxious gases from a gas stream utilizing selectively sized and electrically charged water droplets, preferably between 30 and 60 microns, that exhibit significantly enhanced affinity for smaller uncharged particles through dielectrophoretic attraction, said droplets being present in such relatively low concentration that performance is not limited by

space charge. The charged droplets are caused to move relative to the gas stream by inertial or electrostatic means, or both, at such a velocity and path as to maximize encounters between charged droplets and the particles to be collected. FIG. 3 of Malcolm discloses an outer grounded cylindrical conducting tower 17 having a gas inlet 16. In Malcolm, the grounding of the cylindrical conducting tower 17 removes charges from the droplets, but Malcolm is silent with respect to grounding of an introduction piping. Moreover, it neither teaches nor suggests preventing electrostatic charging which is generated by the friction between ammonium chloride powders and inside walls of an exhaust gas passageway.

In view of at least the above-summarized reasons, Applicants respectfully submit Holst, and Malcolm, individually or in any combination thereof, do not make obvious the invention recited in Claim 3. Furthermore, Claims 5 and 11 should be allowable, among other reasons, as depending directly or indirectly from Claim 3, which should be allowable over the cited combination.

Applicants respectfully further traverse the rejection because there is no sufficient evidence of record for the required motivation to modify the Holst's device by incorporating Malcolm's grounded cylindrical conducting tower, for the following reasons.[1]

The outstanding Office Action states that the proposed modification would have been obvious for the creation of charged droplets that "impart highly efficient particle collision and collection."[2] However, Applicants respectfully submit that such a reason provided by Malcolm relates to the influence of the voltage potential applied between the inner and outer walls of the disclosed annulus on the micron-size droplets used in the dielectrophoretically

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[1] See MPEP 2143.01 stating "[o]bviousness can only be established by combining or modifying the teaching of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art," (citations omitted). See also MPEP 2144.08 III stating that "[e]xplicit findings on motivation or suggestion to select the claimed invention should also be articulated in order to support a 35 U.S.C. 103 ground of rejection. . . Conclusory statements of similarity or motivation, without any articulated rational or evidentiary support, do not constitute sufficient factual findings."

[2] See, Malcolm, col. 4, lines 51-52.

enhanced particle collection system of Malcolm. Applicants failed to identify the connection between the cited portion of Malcolm and the reason proposed for the motivation to ground the apparatus of Holst. In addition, Applicants respectfully submit that the record fails to provide the required evidence of a motivation for a person of ordinary skill in the art to perform such modification. While Malcolm may provide a reason for the enhanced particle collision and collection obtained by the applied voltage differential between two concentric conducting cylinders, it fails to suggest why a person of ordinary skill in the art would be motivated to ground an "introduction piping" in a device such as the one disclosed in FIG. 12 of Holst, which simply and schematically illustrates a process system for treatment of effluent gas. In addition, Holst is silent with respect to any grounding. The Holst patent does not suggest that further improvement is desired, or that another feature, such as grounding, should be added to further improve the effluent gas stream treatment system having utility for oxidation treatment of semiconductor manufacturing effluent gases. In particular, the Holst patent does not suggest to add any grounding in the disclosed apparatus. As such, the Holst and Malcolm patents, therefore, do not provide the motivation to perform the proposed modification of the Holst device. In other words, an attempt to bring in the isolated teaching of Malcolm's grounded outer cylindrical conducting tower into the Holst device would amount to improperly picking and choosing features from different references without regard to the teachings of the references as a whole.[3] While the required evidence of motivation to combine need not come from the applied references themselves, the evidence must come from *somewhere* within the record. In this case, there is nothing in the record supporting the Office Action's proposed modification of the Holst patent.

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[3] See In re Ehrreich 590 F2d 902, 200 USPQ 504 (CCPA, 1979) (stating that patentability must be addressed "in terms of what would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the sum of all the relevant teachings in the art, not in view of first one and then another of the isolated teachings in the art," and that one "must consider the entirety of the disclosure made by the references, and avoid combining them indiscriminately.")

For the foregoing remarks, Applicants respectfully request withdrawal of the rejection of Claims 3, 5, and 11 under 35 U.S.C. § 103(a).

Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Holst, and Malcolm in view of Skelley et al. (U.S. Patent No. 5,206,002, hereinafter "Skelley"). In addition, Claims 12-15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Holst, and Malcolm in view of Otomura et al. (Japanese Patent No. JP 62218966 A, hereinafter "Otomura"). Claim 12 has been canceled by the present Amendment; therefore, its rejection is now moot. Claims 10, and 13-15 depend from Claim 3.

Applicants respectfully submit that Holst , Malcolm, Skelley, and Otomura, individually or in any combination thereof, do not support a *prima facie* case of obviousness of the invention recited in Claim 3. This is so because, even when combined, these prior art references do not teach or suggest all the claim limitations recited therein.

Holst and Malcolm have already been discussed previously. Skelley has been cited for disclosing an oxygen detector and Otomura has been cited for disclosing an alloy having the characteristic properties recited in Claims 13-15. As such, neither Skelley nor Otomura remedies the previously discussed deficiencies of Holst and Malcolm with reference to Claim 3. Therefore, at least in view of the their dependency from Claim 3, Applicants respectfully submit that Claims 10 and 13-15 are not made obvious by the combination of Holst and Malcolm with either Skelley or Otomura. Applicants respectfully request that the rejection of Claims 10 and 13-15 under 35 U.S.C. 103(a) be withdrawn.

Finally, Applicants have submitted herein new Claims 16 and 17. Claim 16 recites a cleaning apparatus to clean a gas containing ammonium chloride powders, comprising, among other features, an absorption column, a first inlet pipe configured to transport the gas containing ammonium chloride powders into the absorption column, the first inlet pipe being made of an electroconductive corrosion-resistant material, an outlet pipe to exhaust gases

from the cleaning apparatus, and a second inlet pipe to introduce an absorption liquid into the absorption column, wherein the first inlet pipe is electrically grounded in order to prevent an electrostatic charge generated by friction between the ammonium chloride powders and the first inlet pipe. Claim 17 is a combination claim as recited. Non-limiting support for the subject matter of Claims 16 and 17 is found at least in FIG. 2 of Applicants' specification. At least in view of the above-summarized discussion, Applicants respectfully submit that Claims 16 and 17 patently distinguish from the prior art cited in the outstanding rejection.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 3, 5, 10, 11, and 13-17 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicants' undersigned representatives at the below listed telephone number.

Respectfully submitted,

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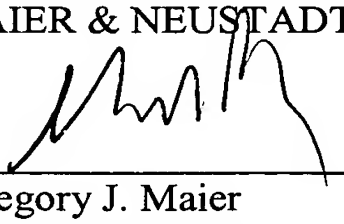
MAIER & NEUSTADT, P.C.



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